IN THE CLAIMS

Please amend the claims as follows:

Claims 1-11 (Canceled).

Claim 12 (New): A method for diagnosing functional faults of an assembly of electronic systems, the systems being composed of components that produce and consume data, at least one of the data configured to assume a predetermined particular value following development of a functional fault of at least one of the components of the assembly, the method comprising:

i) classifying, during a phase of design of architecture of the assembly of systems, the particular values according to associated types of faults, and the classification being recorded in a computer memory;

ii) connecting, during a diagnostic phase, a diagnostic tool to the assembly of electronic systems, the tool having access to the classification;

iii) suppressing the particular values corresponding to types of faults of components predefined in the classification as particularly reliable;

iv) selecting data that have assumed a particular value;

v) automatically calculating, for each datum selected in the selecting, a group of data configured to be responsible for the particular values assumed by the datum;

vi) automatically establishing a list of the data contained in an intersection of the groups of data; and

vii) recording the particular values and their propagation on a memory for a tool provided for diagnosis of the assembly of electronic systems.

Claim 13 (New): A method according to claim 12, wherein faults for which consequences have not been observed are excluded from the list.

Claim 14 (New): A method according to claim 12, wherein, if no fault remains in the automatically establishing (vi), the method is restarted at the connecting (ii), by taking into account classes of fault that had been removed previously.

Claim 15 (New): A method according to claim 14, wherein, if a fault remains in the automatically establishing (vi), it is verified that one of the faults identified is the cause of the problem that led to initiation of the diagnostic phase and, if such is not the case, the connecting (ii) is recommenced.

Claim 16 (New): A method according to claim 12, wherein the list is analyzed to identify that component or those components of the assembly in which a functional fault is responsible for the particular values assumed by the data.

Claim 17 (New): A method according to claim 12, wherein fault types belong to at least one of categories listed below:

values created following unavailability of a datum emitted by a function,

particular values created following detection of a fault of a sensor or actuator,

particular values created following a fault of the connection system, at a level of a connector or wire,

particular values created following a fault of a calculator,

particular values created following a fault of execution of a program on a microcontroller, and

particular values created following a fault at the level of a communication network.

Claim 18 (New): A diagnostic method according to claim 12, wherein there is automatically determined a probability that each datum will assume a particular value as a function of the category to which it belongs, and wherein the suppressing (iii) is modified by first taking into account classes of faults that had been removed previously.

Claim 19 (New): A diagnostic method according to claim 12, wherein the assembly of electronic systems is composed of an assembly of systems for equipping a vehicle.

Claim 20 (New): A diagnostic method according to claim 12, further comprising analysis of feasibility and/or susceptibility to failure of the assembly of electronic systems and of establishment of an output indicating the feasibility and/or susceptibility to failure.

Claim 21 (New): A data-processing tool programmed for the diagnosis of an assembly of electronic systems using the method according to claim 12.

Claim 22 (New): A commercial article provided with a computer-readable memory, program executable by a computer being recorded in the memory for diagnosis of functional faults of an assembly of electronic systems, the program including encoding for:

i) classifying, during a phase of design of architecture of the assembly of systems, particular values according to associated types of faults, and the classification is recorded in a computer memory;

ii) connecting, during a diagnostic phase, a diagnostic tool to the assembly of electronic systems, the tool having access to the classification;

iii) suppressing the particular values corresponding to types of faults of components predefined in the classification as particularly reliable;

iv) selecting the data that have assumed a particular value;

v) automatically calculating, for each datum selected in an selecting (iv), a group of data configured to be responsible for the particular values assumed by the datum;

vi) automatically establishing a list of the data contained in an intersection of the groups of data, and

vii) recording the particular values and their propagation on a memory for a tool provided for the diagnosis of the assembly of electronic systems.

Claim 23 (New): A data-processing tool programmed for the diagnosis of an assembly of electronic systems using the commercial article according to claim 22.